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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
08/852,495	05/07/1997	DAVID A. RUDDY	8907-057-999	7064

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EXAMINER	
GOLDBERG, JEANINE ANNE	
ART UNIT	**PAPER NUMBER**
1634	

DATE MAILED: 02/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	08/852,495	RUDDY ET AL.	
	Examiner	Art Unit	
	Jeanine A Goldberg	1634	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 November 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *49,53-55,59-68,100,102-107,110-112,114-119 and 123* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *49,53-55,59-68,100,102-107,110-112,114-119 and 123* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *1203, 1003, 203*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☒ Other: *IDS: 103, 103, 1202*, .

DETAILED ACTION

1. This action is in response to the papers filed November 11, 2003. Currently, claims 49, 53-55, 59-68, 100, 102-107, 110-112, 114-119, 123 are pending.

2. Any objections and rejections not reiterated below are hereby withdrawn.

Election/Restrictions

3. Applicant's election without traverse of Group I, Claims 49-68, 100-111 in the paper filed July 2, 2003.

The requirement is still deemed proper and is therefore made FINAL.

It is noted that the instant examiner does not believe that a nucleic acid is distinct from the same nucleic acid attached to a support.

Priority

4. This application claims priority to CIP 08/724,394, filed October 1, 1996. However, the 08/724,394 case does not appear to provide any disclosure of polymorphisms at particular positions. Therefore, the instant application is awarded the benefit of the instant filing date, namely May 7, 1997.

Drawings

5. The drawings are acceptable.

New Matter

6. Claims 65-68 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In the amended claims, reference to "300 consecutive bases" are included. The amendment fails to provide any point in the specification to illustrate that this length limitation was provided for. The concept of "oligonucleotides of at least 300 consecutive bases" does not appear to be part of the originally filed invention. Therefore, a lower length limitation of 300 constitutes new matter. Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Rejections - 35 USC § 112- Written Description

7. Claims 110, 102-107, 110-112, 114-119, 123 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The claims are broadly drawn to one or more oligonucleotides comprising a sequence that hybridizes under stringent conditions to a SNP in a target nucleic acid at a SNP site selected from a group consisting of a SNPs at positions 230376, 214795, 207400, 200027, 195404, 16007, 125581, 120853, 96315, 61465, 40431, 328526 and 35983.

The specification teaches that SEQ ID NO: 1 is a nucleotide sequence of approximately 235 KB in the HH subregion from an unaffected individual. The specification teaches that the 397 new polymorphic sites in the region of the HH gene are listed in Table 1. The polymorphisms are taught to provide surrogate markers for use in diagnostic assays to detect the likely presence of the mutations 24d1 and/or 24d2 (page 11, lines 32-38). An HH affected individual was sequenced between D6S2238 and D6S2241 (page 24). The specification teaches that a subset of the polymorphic alleles so defined were further studied to determine their frequency in a collection of random individuals.

The specification teaches that the SNP at 35983 (an A to G change) was present in the ancestral chromosome and rare in the random DNAs. A genotyping of 90 HH

patients revealed that 79.4% of the patients has a C at this position as compared to 5% in the random DNAs (page 28). 85/90 patients assayed contained identical 24d1 and 35983 (C182.1G7T/C genotypes).

Further, the specification detections a change at 61,465 which is a G to A change) (page 28). 76 patients contained a T at 61,465 as compared with 5% in random individuals. 75.5% of affected individuals contained a T.

Table 2 demonstrates that the frequency of the SNPs in random chromosomes. This measurement provides no indication of the frequency of the SNPs in diseased or HH patients.

As provided in the Written Description guidelines, Example 9, claims drawn to oligonucleotides which hybridize under stringent conditions absent functional language have not been described. The skilled artisan would expect substantial variation among species encompassed within the scope of the claims because stringent conditions would not yield substantially similar DNAs. A representative number of species has not been disclosed since the stringent conditions are not in combination with the function of DNA. The claims as written do not contain any particular length limitation on the oligonucleotides. The claim would encompass oligonucleotides which are homologs, variants, splice variants and the "wild type" previously disclose by applicant.

Vas-Cath Inc. V. Mahurkar, 19 USPQ2b 1111, clearly states that "applicant must convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession of the invention. The invention is, for purposes of the 'written description' inquiry, whatever is now claimed". Applicant is reminded that *Vas-Cath* makes clear that the written description provision of 35 USC 112 is severable from its enablement provision. In *The Regents of the University of California v. Eli Lilly* (43 USPQ2b 1398-1412), the court held that a generic statement which defines a genus of

nucleic acids by only their functional activity does not provide an adequate written description of the genus. The court indicated that while Applicants are not required to disclose every species encompassed by a genus, the description of a genus is achieved by the recitation of a representative number of DNA molecules, usually defined by a nucleotide sequence, falling within the scope of the claimed genus. At section B(1), the court states that "An adequate written description of a DNA...' required a precise definition, such as by structure, formula, chemical name, or physical properties', not a mere wish or plan for obtaining the claimed chemical invention". In analyzing whether the written description requirement is met for a genus claim, it is first determined whether a representative number of species have been described by their complete structure. In the instant case, Applicant has defined only a fragment of a nucleic acid sequence. Accordingly, Applicants have not adequately disclosed the relevant identifying characteristics of a representative number of species within the claimed genus.

Claim Rejections - 35 USC § 112- Scope of Enablement

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. Claims 49, 53-55, 59-68, 100, 102-107, 110-112, 114-119, 123 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for isolated polynucleotides of 10 nucleotides in length and isolated polynucleotides of at least 18 consecutive bases which span SNP 35983 and 61465, does not reasonably provide enablement for an isolated polynucleotide spanning 230376, 214795, 207400,

200027, 195404, 16007, 125581, 120853, 96315, 40431, 38526. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims.

Factors to be considered in determining whether a disclosure meets the enablement requirement of 35 USC 112, first paragraph, have been described by the court in *In re Wands*, 8 USPQ2d 1400 (CA FC 1988). *Wands* states at page 1404,

> "Factors to be considered in determining whether a disclosure would require undue experimentation have been summarized by the board in Ex parte Forman. They include (1) the quantity of experimentation necessary, (2) the amount of direction or guidance presented, (3) the presence or absence of working examples, (4) the nature of the invention, (5) the state of the prior art, (6) the relative skill of those in the art, (7) the predictability or unpredictability of the art, and (8) the breadth of the claims."

The nature of the invention and breadth of claims

The claims are drawn to nucleic acids which span a SNP within SEQ ID NO: 1 wherein the SNP is located at one of the recited positions and is found in a general population with about 25% or less frequency.

The invention is in a class of invention which the CAFC has characterized as "the unpredictable arts such as chemistry and biology." Mycogen Plant Sci., Inc. v. Monsanto Co., 243 F.3d 1316, 1330 (Fed. Cir. 2001).

The unpredictability of the art and the state of the prior art

The art teaches genetic variations and associations are often irreproducible. Hirschhorn et al. (Genetics in Medicine. Vol. 4, No. 2, pages 45-61, March 2002) teaches that most reported associations are not robust. Of the 166 associations studied three or more times, only 6 have been consistently replicated. Thus, Hirschhorn

cautions in drawing conclusions from a single report of an association between a genetic variant and disease susceptibility.

The art teaches that presence of SNPs in the same gene does not indicate that each of the genes is associated with the same diseases. Meyer et al. (PG Pub 2003/0092019), for example, teaches that SNPs in the CADPKL gene are not each associated with neuropsychiatric disorders such as schizophrenia. Specifically Meyer teaches that cadpkl5 and cadpkl6 are not associated with the disease, however cadpkl7 has a p-value of less than 0.05, therefore an association exists. Each of these polymorphisms are SNPs within the CADPKL gene, however, it is apparent that they are not all associated in the same manner with disease. Thus, Meyer exemplifies that the association of a single SNP in a gene does not indicate that all SNPs within the gene are associated with the disease.

Additionally, Ioannidis teaches that the results of the first study correlate only modestly with subsequent research on the same association (abstract). Ioannidis teaches that both bias and genuine population diversity might explain why early association studies tend to overestimate the disease protection or predisposition conferred by a genetic polymorphism (abstract).

Guidance in the Specification.

The specification teaches that SEQ ID NO: 1 is a nucleotide sequence of approximately 235 KB in the HH subregion from an unaffected individual. The specification teaches that the 397 new polymorphic sites in the region of the HH gene are listed in Table 1. The polymorphisms are taught to provide surrogate markers for use in diagnostic assays to detect the likely presence of the mutations 24d1 and/or 24d2 (page 11, lines 32-38). An HH affected individual was sequenced between

D6S2238 and D6S2241 (page 24). The specification teaches that a subset of the polymorphic alleles so defined were further studied to determine their frequency in a collection of random individuals.

The specification teaches that the SNP at 35983 (an A to G change) was present in the ancestral chromosome and rare in the random DNAs. A genotyping of 90 HH patients revealed that 79.4% of the patients has a C at this position as compared to 5% in the random DNAs (page 28). 85/90 patients assayed contained identical 24d1 and 35983 (C182.1G7T/C genotypes).

Further, the specification detections a change at 61,465 which is a G to A change) (page 28). 76 patients contained a T at 61,465 as compared with 5% in random individuals. 75.5% of affected individuals contained a T.

Table 2 demonstrates that the frequency of the SNPs in random chromosomes. This measurement provides no indication of the frequency of the SNPs in diseased or HH patients.

The skilled artisan would not know how to use each of the polynucleotides in the claims, since the specification fails to provide an association of the SNPs at positions 230376, 214795, 207400, 200027, 195404, 16007, 125581, 120853, 96315, 40431, 38526 with any particular disease or condition. Thus, the skilled artisan would be unable to practice the claimed invention with out further experimentation.

Working Examples

There are no working examples in the specification directed specifically to 11 of the particular SNPs recited, namely 230376, 214795, 207400, 200027, 195404, 16007, 125581, 120853, 96315, 40431, 38526.

Quantity of Experimentation

The skilled artisan would be required to perform additional undue experimentation to determine whether SNPs at positions 230376, 214795, 207400, 200027, 195404, 16007, 125581, 120853, 96315, 40431, 38526 would be useful for any particular means. The specification specifically asserts that these SNPs are "surrogate markers for use in diagnostic assays to detect the likely presence of the mutations 24d1 and/or 24d2." There is no teachings in the specification that SNPs at position 230376, 214795, 207400, 200027, 195404, 16007, 125581, 120853, 96315, 40431, 38526 would be useful as surrogate markers for known markers. There is no evidence in the specification that SNPs at positions 230376, 214795, 207400, 200027, 195404, 16007, 125581, 120853, 96315, 40431, 38526 are useful for any particular means. Moreover, the explicit teachings in the specification indicate that SNPs at 35983 and 61465 are more frequently seen in diseased patients. The evidence provided for each of these SNPs does not confer a use for the other 11 SNPs in which no association or demonstration of association with a disease or usefulness as a surrogate marker. The art clearly establishes that the general knowledge in the art concerning SNPs and polymorphisms is such that an association of a SNP with a disease does not provide an indication that all SNPs also confer the same association, see discussion above. The art teaches that the replicability of association studies on small studies is not predictable in addition to evidence that SNPs in the same gene do not have the same associations.

The skilled artisan would be required to perform undue experimentation to determine how to use the method for detecting a polymorphism which is not associated in any particular manner with a disease or condition. Moreover, the claims are written so broadly as to require the skilled artisan to determine whether the polymorphisms are associated with additional diseases without a reasonable expectation of success. While

one could conduct additional experimentation to determine whether e.g. the presence of a SNP at position 230376, 214795, 207400, 200027, 195404, 16007, 125581, 120853, 96315, 40431, 38526 might be associated with, e.g. HH, the outcome of such research cannot be predicted, and such further research and experimentation are both unpredictable and undue.

It is also unclear from the specification how the skilled artisan would use an oligonucleotide containing an A or G at position 35,983 of SEQ ID NO: 1. The instant specification appears to indicate in Table 2 that the nucleic acid T appears in 95% of the random chromosomes and C appears in 5% of the random chromosomes. Therefore, it is unclear how the skilled artisan would use a sequence which does not appear to occur in the random chromosome population. The specification fails to assert any use for the alleles aside from T and C at position 35,983 of SEQ ID NO: 1. Moreover, the instant specification fails to address the same concern for position 61465 of SEQ ID NO: 1. Thus, the skilled artisan would not know how to use the claimed oligonucleotides which have not been shown to exist in nature.

Level of Skill in the Art

The level of skill in the art is deemed to be high.

Conclusion

In the instant case, as discussed above, in a highly unpredictable art where the association of polymorphisms in small samples with particular diseases is not reproducible. The factor of unpredictability weighs heavily in favor of undue experimentation. Further, the specification provides insufficient guidance since the specification fails to provide any teachings that SNPs at 230376, 214795, 207400,

200027, 195404, 16007, 125581, 120853, 96315, 40431, 38526 is associated with any particular disease, namely HH. Thus given the broad claims in an art whose nature is identified as unpredictable, the unpredictability of that art, the large quantity of research required to define these unpredictable variables, the lack of guidance provided in the specification, the absence of a working example and the negative teachings in the specification balanced only against the high skill level in the art, it is the position of the examiner that it would require undue experimentation for one of skill in the art to perform the method of the claim as broadly written.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 100, 102-107, 110-112, 114-119, 123 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A) Claims 100, 102-107, 110-111 is indefinite over the recitation "hybridizes under stringent hybridization conditions to a SNP in a target nucleic acid at a SNP site..." It is unclear whether the nucleic acid only hybridizes at a single site, or whether the nucleic acid hybridizes over a target which comprises as SNP site. Furthermore, it is unclear whether the oligonucleotides must contain a "mutant" allele or whether the oligonucleotides claimed are "normal" alleles. As written, the claim is directed to a SNP site which is merely a site on a nucleic acid molecule which may have one of the four nucleotides.

B) Claims 123, 112, 114-119 are indefinite over the recitation "including a SNP selected from..." because it is unclear whether SEQ ID NO: 1 which is the normal sequence must contain a variant at the SNP site or whether the claim merely requires that the sequence must contain a SNP site where the oligonucleotide hybridizes. Broadly construed, the claim appears to read upon SEQ ID NO: 1.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 49, are rejected under 35 U.S.C. 102(b) as being anticipated by Brennan (US Patent 5,474,796, December 12, 1995).

Brennan teaches oligonucleotides having 10 nucleotides each (10-mers). Specifically, Brennan states, "the array contains oligonucleotides having 10 nucleotides each (10-mer)" (col. 9, lines 48-50). The oligonucleotides represent every possible permutation of the 10-mer oligonucleotide. Therefore, Brennan teaches every possible 10-mer nucleic acid.

Response to Arguments

The response traverses the rejection. The response asserts that the Brennan patent discloses a method for constructing an array representing every possible 10-mer, therefore does not disclose each and every 10-mer in the array. This argument has

been reviewed but is not convincing because Brennan made the array product. Applicant's statement that Brennan merely teaches a method, rather than the product does not appear to be supported by the language in Brennan. Since Brennan has exemplified the product, the product is enabled and has been described.

The response further argues that Brennan cannot anticipated the selected oligonucleotides that Applicants seek to patent because the genus of all 10-mers is "a selection invention directed towards only 13 specific SNPs in a single sequence." This argument has been thoroughly reviewed, but is not found persuasive because the claim is drawn to a polynucleotide. The argument directed to a selection invention is not commensurate in scope with the claims. Brennan teaches each 10-mer, therefore, Brennan anticipates each 10-mer.

With respect to the genus argument, applicants are claiming 10 possible 10-mers plus the complements for 13 different SNPs. Thus, applicants are claiming 260 oligonucleotides in Claim 49. The genus species argument fails in the instant case because each and every species is disclosed and made on the array. The art does not teach a genus with suggestions to species. Here every species is explicitly made and disclosed on the array of Brennan.

Thus for the reasons above and those already of record, the rejection is maintained.

11. Claims 49, are rejected under 35 U.S.C. 102(b) as being anticipated by Pease et al. (PNAS, Vol. 91, pages 5022-5026, May 1994).

Pease et al. (herein referred to as Pease) teaches an oligonucleotide array of 256 octanucleotides was generated (page 5022, col. 2). A 1.28 x 1.28 cm array of 256 different octanucleotides was produced in 16 chemical reaction cycles, requiring 4 hours to complete. Pease therefore has produced an array with every possible 8 mer. Therefore, Pease anticipates the claimed 8-mers of the instant claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

12. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

13. Claims 53-54, 100, 103-104, 110-112, 114, 116-119, 123 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brennan (US Patent 5,474,796, December

12, 1995) or Pease et al. (PNAS, Vol. 91, pages 5022-5026, May 1994) either in view of Ahern (The Scientist, Vol 9, No. 15, page 20, July 1995).

Because no patentable weight is given to the written material in the instructions describing a method, the claim is obvious in view of Brennan and Ahern. In the Opinion Text of *In re Haller*, 73 USPQ 403 (CCPA 1947), the court stated "Whether the statement of intended use appears merely in the claim or in a label on the product is immaterial so far as the question of patentability is concerned." The instructions of the instant kit are not considered to distinguish the claimed kits over the prior art.

Brennan teaches oligonucleotides having 10 nucleotides each (10-mers). Specifically, Brennan states, "the array contains oligonucleotides having 10 nucleotides each (10-mer)" (col. 9, lines 48-50). The oligonucleotides represent every possible permutation of the 10-mer oligonucleotide. Therefore, Brennan teaches every possible 10-mer nucleic acid. The oligonucleotides are identical to the claimed oligonucleotides, therefore they would hybridize under stringent conditions to the claimed oligonucleotides (limitations of Claim 100). Moreover, these primers may serve as amplification or sequencing primers (limitations of Claims 103-104). Claim 110-111 is drawn to a kit which is "configured to detect two or more SNPs. The array of Brennan is synthesized to that each oligonucleotide may be detected. With respect to Claim 123, 112, 114, 116-119, the oligonucleotides of Brennan comprise at least 8 consecutive bases that span one of the SNPs.

Pease et al. (herein referred to as Pease) teaches an oligonucleotide array of 256 octanucleotides was generated (page 5022, col. 2). A 1.28 x 1.28 cm array of 256

different octanucleotides was produced in 16 chemical reaction cycles, requiring 4 hours to complete. Pease therefore has produced an array with every possible 8 mer.

Brennan does not specifically teaches packaging necessary reagents into a kit.

However, Ahern teaches reagent kits offer scientists good return on investment. Ahern teaches kits save time and money because the kits already comes prepared.

Therefore, it would have been **prima facie** obvious to one of ordinary skill in the art at the time the invention was made to have modified the teachings of Brennan or Pease with the teachings of Ahern to incorporate the necessary reagents into a packaged kit. The ordinary artisan would have been motivated to have packaged the primers, probes, and reagents of Brennan pr Pease into a kit, as taught by Ahern for the express purpose of saving time and money. Therefore placing the array of Brennan or Pease into a kit would have been obvious at the time the invention was made.

14. Claims 100, 102, 123 are rejected under 35 U.S.C. 103(a) as being obvious over Feder et al. (US Pat. 5,872,237, filed October 1996) in view of Ahern (The Scientist, Vol 9, No. 15, page 20, July 1995).

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject

matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). For applications filed on or after November 29, 1999, this rejection might also be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. See MPEP § 706.02(l)(1) and § 706.02(l)(2).

Because no patentable weight is given to the written material in the instructions describing a method, the claim is obvious in view of Brennan and Ahern. In the Opinion Text of *In re Haller*, 73 USPQ 403 (CCPA 1947), the court stated "Whether the statement of intended use appears merely in the claim or in a label on the product is immaterial so far as the question of patentability is concerned." The instructions of the instant kit are not considered to distinguish the claimed kits over the prior art.

Feder teaches a nucleic acid which is 100% complementary with the instant sequence. Feder fails to teach any particular SNPs. The nucleic acid sequence of Feder would hybridize to a SNP in a target nucleic acid. A full length nucleic acid would hybridize to particular fragments of the sequence. It is noted that Claim 100, 102 and 123 fail to place any length limitation on the oligonucleotides. Additionally, SNP sites

are merely positions within a sequence. This does not place any particular nucleotide at the particular site, therefore, the SNP site may contain the "wild type" allele.

Feder does not specifically teaches packaging necessary reagents into a kit. Feder suggests placing genetic materials in a kit, however, does not appear teaching placing the nucleic acid in a kit.

However, Ahern teaches reagent kits offer scientists good return on investment. Ahern teaches kits save time and money because the kits already comes prepared.

Therefore, it would have been **prima facie** obvious to one of ordinary skill in the art at the time the invention was made to have modified the teachings of Feder with the teachings of Ahern to incorporate the necessary reagents into a packaged kit. The ordinary artisan would have been motivated to have packaged the primers, probes, and reagents of Brennan into a kit, as taught by Ahern for the express purpose of saving time and money. Therefore placing the nucleic acid of Feder into a kit would have been obvious at the time the invention was made.

Conclusion

15. No claims allowable.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner Jeanine Goldberg whose telephone number is (571) 272-0743. The examiner can normally be reached Monday-Friday from 6:00 a.m. to 3:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Jones, can be reached on (571) 272-0745.

Any inquiry of a general nature should be directed to the Group receptionist whose telephone number is (571) 272-0507

J. Goldberg

Jeanine Goldberg
Patent Examiner
February 4, 2004